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The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, OCTOBER 16, 1941. NUMBER 2438: VOLUME 94

PRINCIPAL CONTENTS

Owing to the paper shortage the JOURNAL, *in common with all other papers, is now only supplied to newsagents on a "firm order" basis. This means that newsagents are now unable to supply the* JOURNAL *except to a client's definite order.*

To obtain your copy of the JOURNAL *you must therefore either place a definite order with your newsagent or send a subscription order to the Publishers.*

LENINGRAD: THE ADMIRALTY

The Admiralty was designed by Sakharov (1761-1811) *first a pupil and later a professor at the St. Petersburg Academy of Fine Arts. The breadth, spaciousness and calm of its monumental façade is typical of nineteenth century Russia. In spite of its enormous size—the tower is* 229 *feet high and the main façade* 842 *yards long—it is neither oppressive nor monotonous. The general colour is the old government tawny yellow with detail and pillars picked out in white. Ornament is sparingly used in contrast with long stretches of blank wall punctuated only by windows. Columns and porticos stand out in bold relief. There is nothing half-hearted about the treatment and the general effect is one of great richness. On the right is the main entrance.*

LENINGRAD: THE RIVER FRONT

Along the banks of the Neva stretch imposing rows of great palaces. These are not public buildings but are Leningrad's equivalent to Bedford or Belgrave Squares. Before the Revolution they were the homes of the great nobles. Now they are used as offices and headquarters for trade unions and similar organisations. Originally in the late eighteenth and early nineteenth centuries they were painted in bright colours—grass green, royal blue, orange, or yellow with white or cream columns, plinths and window surrounds. Doric was the favourite order. Many of them have been repainted by the Soviet Government and restored to their original splendour.

SCIENCE AND PLANNING

THE British Association for the Advancement of Science met yearly before the war to popularize the current results of scientific research. Just before the war it became obvious that science in isolation was not fulfilling its proper function—the application of technical work has also to be scientific—and the Division for Social and International Relations of Science was set up. This Division has recently held its first conference, at which some 60 scientists read papers on " Science and World Order."

The speeches particularly emphasized developments of science which will be needed for post-war relief and reconstruction and the re-establishment of living standards—food and agriculture, public works and planning the land, transport, heat and power, and the planned use of natural resources and waste products.

There was little discussion of science in war or, indeed, of science in industry.

Several speakers urged the importance of concentrating on winning the war, and of establishing now scientific methods of control and planning which would ensure that the best technical knowledge was later used in reconstruction. But Professor Huxley, in summing up, expressed a different view, saying it was of little use to win the war if we failed to organize the reconstruction in advance. This difference, which is of vital importance for the building industry in particular, of course raises such questions as whether it was a difference of knowledge and research or of control which caused regional plans to be adopted before this war for the Tennessee Valley and for Moscow but not for New York or for London.

Science in industry is clearly of basic importance to a " World Order " in war and peace. Probably the physicists and industrial chemists were too busy realizing this in practice to put their views to the conference. The biological trend of the discussion was most marked.

It was in the subject of Nutrition that there seemed to be the greatest advance towards a scientific optimum standard, as against an arbitrary or empirical definition of human needs. Sir John Orr's paper was expanded by other speakers, who showed the repercussions on agriculture and on economics, outlining the possibilities of international rational control, based on knowledge of human welfare, which would indeed be the most stimulating example of World Order. Sir John Russell, for example, described the possibilities for improving and quickly replacing the stocks of cattle and plants in devastated regions by the use of artificial insemination and by preserving stocks of the most suitable plants. At the same time, the continued malnutrition of the poor which Sir John Orr described is, and has been, obvious from common sense, and could largely be ended, even in wartime, by organized goodwill. Thus, in this subject where scientific advances have shown most exactly what is required and which ill effects are caused by deficiencies, the greatest lack is still the scientific application of common knowledge.

When it came to the discussions on planning the land, on scientific building construction, and planned use of materials, one felt the lack of the theoretical work available to biologists. Far from their being a framework of knowledge into which each paper could fit, there was no speaker who even outlined the extent of the research yet to be covered. It may seem incredible, but the paper on the work of the Building Research Station dealt only with questions of acoustics and sound transmission, daylight illumination, education of technicians, and a note on building regulations. A tremendous extension of this excellent work is essential. The terms of reference of the National Building Council presuppose, for efficient work, a huge and rapidly organized research programme. Who is attending to it? Is this avoidance of main issues a proper way to counter the impatient self-interest of some sections of the building industry who, under the title " Free the Industry," are now suggesting the re-establishment of the chaos which marked the the beginning of wartime building and the triumph of speculative building after the last war? What research into materials, labour, safety under bombing, comfort conditions, and peace-time use preceded the adoption of the various types of hutting and housing now in use? Who is drawing up a research programme for the industry, by which technical information is pooled, and essential abstract research undertaken by a central authority? Most interesting papers on Plastics, by Mr. Couzens, and on efficient methods of design, by Mr. Arup,* show *what* knowledge *is* ready for use. The planners of land and of industry (as distinct from building construction and organization) failed to define a general objective, or even sketch out the circumstances necessary for the attainment of their more detailed work. For instance, Professor Sargant Florence's important paper on industrial location* might have been made quantitative, applied to various regions in Britain, and analysed by experts such as Professor Holford or Sir Ernest Simon, who have experience of siting modern factory and garden city developments, but nothing of the kind occurred.

Such comments may not do justice to the great concentration of thought and knowledge at this conference, but its actual contents will be available as a book. Meanwhile we must hope that the omissions will prove stimulating and that the architectural profession will find itself able to remedy them in the near future, or at any rate make a move in that direction.

* See page 266.

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NOTES & TOPICS

LENINGRAD

LENINGRAD, now being shelled by the Germans, has been "off the map" for several decades. Few people seem to have been there, or for that matter to know anything about it. The Russians themselves are inclined to disown it and prefer Moscow, which is more typically their own. Photographs of Leningrad are almost impossible to obtain though those of the Kremlin are easier to come by.

★

We, like the Russians, prefer what is home grown. Our favourite among classical buildings are, as a rule, chosen automatically from the selection available in France, England, Germany and Italy. We discuss the subject *ad nauseam* without even mentioning Sakharov, who built the admiralty Leningrad in 1832, or Stassov, 1769-1848, who built theatre street. Even Bannister Fletcher, who collected examples as widely separated in time and space as ancient Knossos and Pittsburg, Pa., for some reason ignored Leningrad.

★

I have not been to all the famous towns in Europe that people are accustomed to extol and admire. But I can say this : In comparison with Leningrad, Paris looks like a crowded pawn shop full of dusty and over elaborate bric-a-brac ; Stockholm looks thoroughly bourgeois, and Athens seems small, unsubstantial and incomplete. Comparisons, of course, are odious.

★

The peculiar loveliness of Leningrad, in so far as one can explain it, seems due to three things. (i) The enormous scale on which everything is laid out.* In Leningrad it is really possible not only to see a building but to stand back and look at it and afterwards walk slowly round it (if one has the energy). Buildings there appear as they do in country places, mellowed by the intervening atmosphere. There is a corresponding breadth and dignity about the ornament and detail which is completely free from fussiness and repetition. (ii) The exquisite colouring of the palaces, which are not drearily made of streaky stone, as they would be in this country, but plastered over and freshly painted as the Greeks might have had them. The Museum, for instance, is brilliant orange-red with white plinth and columns. The riding school is grass green and the Ministry of Justice royal blue, the barracks bright yellow. The foreground, as a rule, is a vast expanse of buff cobble stones (or was in 1933) and the background a soft grey sky. (iii) An unusual uniformity of style which is most restful and pleasant though not perhaps calculated to attract sightseers.

★

Leningrad did not happen by accident. During the reign of the Czar Alexander, 1801-1830, more than half the town was built. Of him a contemporary writes : "Having happily terminated all his military compaigns, the Emperor wished once again to indulge in his favourite pastime of building, which warfare had so unhappily interrupted. He wished to make St. Petersburg lovelier than any of the European capitals he had visited, and with this end in view he decided to found a definite committee of architects under the chairmanship of Bélancourt. This committee was not to be troubled with complicated problems of the right of ownership of the house or land, nor with questions regarding the durability of the buildings, regardless of whether they were intended for private or for public use ; its main concern was to examine the designs of all intended façades and either to pass, to alter or to turn down these designs. The committee was also to deal with the layout of streets and squares, the cutting of canals and the erection of bridges, as well as with improving outlying parts of the town—in a word, its sole aim was to consist in ensuring the town's external beauty." The Russians are still well ahead of us in town planning.†

PUBLIC OPINION OR PUBLIC PREJUDICE ?

Planners are beginning to work towards agreement, and there is a feeling in the air that ultimately they will produce a scheme to satisfy everyone. But architects are a small minority and they live in a china shop. Now—suddenly—Mr. Tom Harrison has appeared on the threshold as representative of the multitude outside, eager to demonstrate the fragility of our ideas.

★

Reviewing Poverty and Progress in a recent issue of the *New Statesman*, he writes : "The result of studying much contemporary planning literature is to convince me that many planners have got themselves into a private world from which they have unconsciously excluded much evidence about the only thing with which we are really concerned, the common human need . . . First and foremost I should say that fundamental research now requires to be made into exactly what sort of communities make people happy and which sort of homes people want." Clatter, clatter, clatter ! Scrap everything and start afresh. First, a few words in defence of planners. As Mr. Harrison would say the operative word here is MANY, Mr. Harrison may be able to substantiate his statement by pointing to some who behave in this way, but their numbers are declining, they are not to be confused with modern town planners any more than statisticians are to be confused with mass observers. It is easy to attack statisticians ; as we all know now statistics can prove anything.

★

Mr. Harrison, however, is not a statistician concerned with counting objects, but a mass observer whose aim it is to assess the strength of public opinion and to study human behaviour. But it is as well to remember that he

* The Admiralty building Leningrad is nearly half a mile long, see page 253.

† See page 258.

Apartment houses on the shores of Lake Michigan c. 1929. *Technically they are flats just as much as the unpopular buildings in Stepney, but they bear no resemblance to them except in name. Reproduced from "Space, Time and Architecture" by S. Gideon.*

can only study people's reactions to existing conditions and to particular circumstances. The question on which planners join issue with him is not whether human happiness is important—the whole object of planning is to secure it—but whether the best means of securing it is to give to people what they *say* they want. Mass observation left to itself has no method of distinguishing between public opinion and public prejudice. Even Mr. Harrison admits that there are flaws in the question and answer system and that it is necessary for planners "to mould and educate needs, to iron out illogical resistances."

★

But surely the planner must go further. He must not only reconcile the self-contradictory wishes of Mr. Smith who wants to live in the depth of the country and yet remain within five minutes of his office; but he must prevent Mr. Smith's pleasure from being interfered with by Mr. Brown and his other friends, who for the same reason want to build houses in the charming field next door without realising perhaps that their joint action will turn it into a street. Unless questions asked by mass observers are carefully worded, preferably by planners who understand the issues, they tend to produce a series of answers which cancel each other out. There is a sense in which it is perfectly true to say that the raw material of the planner is simply the land.* No amount of wishful thinking can, for instance, alter the area of land we have at our disposal or reduce the numbers of people who need to be housed on it.

★

Mass observation is not only limited by facts, which make compromise inevitable. It is limited by inherent difficulties which are much more fundamental—by the ignorance and irrationality of the masses. The B.B.C. for instance gave up attempting to find out whether people preferred houses or flats because they kept getting answers like this: "Oh, I like flats best; I never want to live in a house again. We had a lovely bath in our last flat, but in this little house we're in now we all have to wash in the scullery sink."

★

There are a great many questions that need to be answered before planners can get down to details, but it is easy to overstress the importance of what people think they want.† In nine cases out of ten they are not in a position to say because they are not aware of the alternative open to them. As Mr. Harrison himself says: "Of street dwellers in these London boroughs only three per cent. say that they want to live in flats, while three-quarters of Stepney flat dwellers studied (before the Blitz) wanted to live in a small house. People want privacy and exclusion of their neighbours' noises, e.g. radio. But in Kensal House, where Miss Denby has taken such considerations into account, we found that flats can afford a very high rate of satisfaction." The opinion of the Kensal Housers may surprise the people who live in Stepney flats. But it merely confirms what experts could deduce by looking at the buildings in question and comparing them with other types of accommodation that are available. None of these answers help one in the least to guess the reaction of 1,000 Londoners taken at random and settled in skyscraper apartments houses like those shown on this page. The only way to find that out is to try. In other words, planners must advance the hypothesis. Mass observers can then check results.

★

The curse of architecture and town planning is that it is not recognized as a science. It is a subject about which everyone thinks they know something. Medicine concerns our persons just as much, but somehow doctors have managed to establish a certain amount of authority. People are prepared to do what they are told will be good for them. No one thinks of sending out questionaires to discover how 1,000 inhabitants of Stepney would *like* to be cured of appendicitis. Doctors' theories are not approved because they coincide with the wishes of sick people which are often bizarre. They are tested by practical experiments.

SPACE, TIME AND ARCHITECTURE

Professor Gideon's new book, "Space, Time and Architecture" has just arrived in this country from America. It is based on a series of lectures delivered by the author as Charles Elliot Norton, Professor at Harvard University, and the sub-title of the book is "The Growth of a New Tradition."

★

The growth of the modern movement has been traced before, though the only book devoted entirely to the subject is "Pioneers of the Modern Movement," by Mr. Nikolaus Pevsner, who has recorded clearly the different influences that helped to shape it and the various stages of its evolution. Professor Gideon, however, goes further than this. He sums up these various and sometimes contradictory tendencies and from them formulates a coherent philosophy. To quote from the foreword: "I have attempted to establish both by argument and by objective evidence, that in spite of the seeming confusion there is nevertheless a true if hidden unity, a secret synthesis in our present civilization."

★

In other words, he aims at showing the relationship of the modern architectural æsthetic not merely to other branches of design—to the design of motor cars and ships, for instance—or to modern methods of construction (which are sometimes inclined to get too much on top, so that people confuse the distinction between architecture and engineering), but to our whole way of thinking, living and, above all, planning. Coming as it does at a time when reconstruction is in the air, the importance of the book can scarcely be over-rated. A complete review will be published later.

ASTRAGAL

* Incidentally, Mr. Richards' remark was quoted out of its context; *Architectural Review*, Regionalism, August.

† It is much more interesting to know exactly why they want it and why they are dissatisfied with what they've got. Facts about what they do are the most interesting of all.

NEWS

★ A.A. Appeal for £500 to buy a Tea Car This page

★ Repairs to War-Damaged Factories Page xxii

A.A. TEA CAR FUND

Mr. Arthur Wm. Kenyon, President of the Architectural Association, has issued the following appeal to members of the Association :

When considering the fund to which the proceeds of the garden party should go, it was felt that some definite object should be supported with which the A.A. could be directly identified.

The National Council of Y.M.C.A.'s, who have shared our premises since the war started for headquarters of equipment and stores, are making a national appeal for funds for their war services and would welcome gifts of tea cars. These cars look after isolated groups of men stationed all over the country. In addition to refreshments they carry a library and are equipped with personal needs which are difficult to obtain in the surrounding district and are therefore doing most valuable service. As there are over 2,000 architects now serving with the forces, this cause seems to be one which architects would like to support. The A.A. Council feels the opportunity should be given to its members to show their appreciation of the work which is being done, and I therefore put forward an appeal for your support.

The aim is to subscribe £500 to the National Y.M.C.A. War Service Fund to buy a car and maintain it for one year. A plaque would be fixed on the car identifying it as having been presented to the Y.M.C.A. by the Architectural Association. It is hoped that all members will contribute and the subscriptions have, therefore, been limited in amount to 10s. Smaller sums will be gratefully accepted, for it is in the number of gifts rather than a few large ones which would be most representative of the Association. I should very much appreciate your collaboration and help, so please send now before it slips your memory.

Subscriptions should be sent to the Secretary of the Architectural Association, 36, Bedford Square, W.C.1.

THE INSTITUTION OF STRUCTURAL ENGINEERS

Following are the names of the successful candidates in the July examinations held in London and at Birmingham, Bristol, Edinburgh, Glasgow, Manchester, Middlesbrough, Norwich and Stafford. The total number of candidates who appeared at these centres was 91, of whom 32 took the Graduateship Examination and 59 the Associate-Membership Examination. Of these 20 passed the Graduateship Examination and 42 the Associate-Membership Examination.

Graduateship Examination.—G. C. Bewley, K. J. Blakeman, J. E. Collins, J. A. Cook, G. C. Cottrill, T. Craig, J. Crompton, W. J. Dockman, E. W. Drury, H. Feather, J. A. Gordon, F. Y. James, L. W. A. Kidner, I. McGregor, J. E. Snowden, P. W. Tanner, A. C. Tivey, H. Weatherall, R. B. Whitelaw, J. C. Woodward.

Associate-Membership Examination.—S. R. Bhise, C. E. Brown, C. W. Brown, W. Butterworth, H. A. Coles, I. A. Cram, E. P. Cronin, G. Cruickshank, W. J. Dockman, P. Elliott, J. M. Fairlie, A. W. Fletcher, A. Fowlie, J. Gimpel, F. D. Green, W. H. T. Green, J. C. Haigh, G. F. Hodgson, E. Holt, M. P. Kingsley, M. T. Koo, A. G. S. Lance, J. E. Langhorne, A. P. Macdonald, B. G. McIntee, W. Morris, H. G. Partridge, F. T. Raleigh, F. O. Riche, F. Rogers, J. V. G. Shilston, J. E. Tattersall, N. A. Vaitialingam, A. Walker, K. E. Walker, M. W. Watson, L. S. Watts, R. Whittle, G. H. Wilkins, R. J. Wilkins, L. M. Wingate, T. C. L. Trafford.

REGISTRATION APPEALS.

The Architects Registration Council of the United Kingdom has issued the following notice :—

The Tribunal set up under Section 2 of the Architects Registration Act 1938 to hear appeals from persons whose applications for admission to the Register of Architects have been rejected by the Architects Registration Council, will sit at 10.30 a.m. (on October 20th, 21st, 22nd and 23rd) at 66, Portland Place, W.1, by courtesy of the Royal Institute of British Architects. The parties whose cases will be heard have already been notified. Other appeals will be heard at a later date. The sittings of the Tribunal will be open to the public. The Lord Chancellor has appointed Mr. J. E. Thorpe, K.C., as Chairman of the Tribunal.

LETTERS

A.H.T.B

SIR REGINALD ROWE
Chairman, Executive Committee, Housing Centre.

K. WAGER

COUNCILLOR (MRS) OLIVE BENNETT
Woolwich Borough Council.

COLLABORATE WITH RUSSIA

SIR,—I have followed the correspondence about collaboration with Russia with considerable interest. It seems to me that the argument has gone slightly off the rails. Surely the big lessons to be learnt from Russia are neither technical nor æsthetic. We are well ahead of them in these fields. Our trouble is that we continue to talk of planning as if it was merely a question of finding æsthetic solutions to technical problems such as the lay-out of roundabouts, on the lines suggested by Sir Edwin Lutyens at the end of the Bressey Report. The Russians approach the problem from a different point of view. They regard physical planning as a means of putting into practice a coherent social philosophy. Their method is to lay down minimum standards of needs which can be applied by planners in just the same way as standards of nutrition are applied.

The Russian way of living is not the same as ours ; and Russian standards are also different. But they have got a coherent social philosophy, and they have gone far towards translating it into physical terms.

We are still in the stage when we think that the shape of society must be determined by the needs of machines ; the influence of 20th century inventions has not been strong enough to shake us out of our attitude of 19th century fatalism ; in fact it has tended to confirm it.

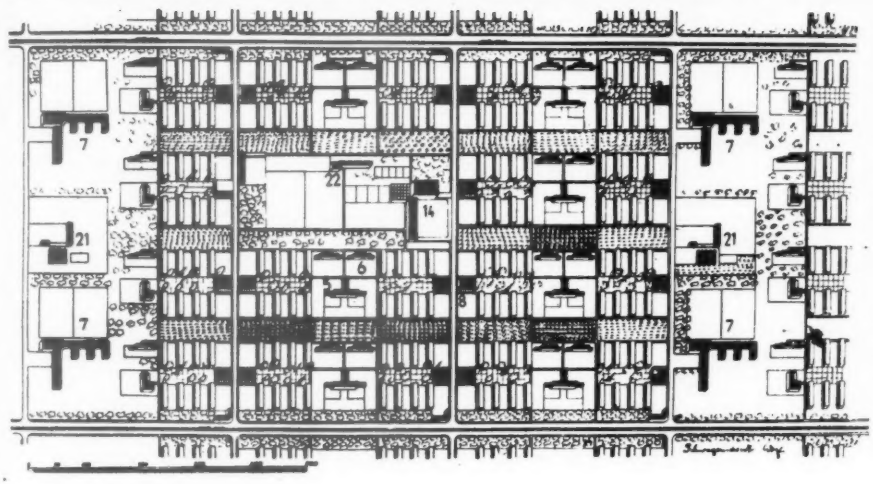
Visits to Russia might shake us out of it ; that in a nutshell is the great argument against visiting Russia.

A. H. T. B.

SOVIET T

The Russians, unlike ourselves, have got far beyond the stage of discussing whether it is or is not possible to plan towns, and have been building new ones and reconstructing old ones for quite a number of years. From some points of view perhaps the results are not spectacular. The appearance of the new Soviet towns, Autostroy, Nishni Novgorod, Kharkov is, it must be confessed, a little bleak. Don't let us forget, however, that the Soviet programme was to rehouse practically the whole population of Russia, and that their resources of technical skill, building materials and labour were, by comparison, scarce, so that the most rigid economy had to be practised. The first essential was to satisfy elementary human needs. On that subject we have a lot to learn from our new ally. The only planning standard so far formulated in this country, apart from the standard for internal overcrowding, is that of the National Playing Fields Association who recommend that 6 acres per thousand persons should be set aside for organized games. This works out at 29 square yards per person, as compared with the standard realized in Russia, which is a mere 3.12 square metres. The value of our superior standard, however, is lessened by the fact that it remains a figure on paper and there is no machinery at all for putting it into practice, even on new housing estates. Standards comparable with the Russian have not been formulated under the other headings, even by unofficial bodies. The total amount of open space that the Russians provide under various different headings is 37.92 square metres per person and an extra 32 square metres for every child which makes the reckoning look rather different. Specially when one remembers that metres are slightly larger than yards—Russian families much larger than British.

TOWN PLANNING



Above : A general view of Autostroy, near Nishni Novgorod. *On the left:* Plan of one of the housing quarters of Magintogorsk, laid out on similar principles. Housing units are arranged in groups of 16 round crèches and kindergartens (Nos. 5 and 6), and separated by strips of land laid out as public or market garden. Schools (No. 7) for older children, and restaurants (Nos. 21 and 22) are also provided, but at less frequent intervals. Land is allocated for various purposes on the following basis : Gardens, 18.3 ; Market gardens, 3.54 ; Playing fields, 3.12 ; Places of rest, 13 square metres per person. Land surrounding crèches, 32.4 ; School playing fields, 32.92 square metres per child.

Lower Housing Standards

SIR,—The Housing Centre has always been concerned with the improvement of housing conditions and the maintenance of a high standard in new housing work. Although we appreciate that it may be necessary to be content with lower housing standards as a temporary measure during the present emergency, it is with some concern that we read in your issue for September 25 of a housing scheme of a permanent nature being carried out now, which shows some of the major inconveniences of plan against which housing reformers have been fighting for the last twenty or thirty years.

In this scheme, access to the w.c. is only by going out of doors. As long ago as 1918 the Tudor Walters Report emphasised the importance of access under cover. The Ministry of Health Manual (1938) is equally emphatic in recommending this and also that access from the bedrooms should be so arranged as to avoid the need for carrying slops through the living room. Access to the bathroom without passing through the living room is another important consideration for working-class homes, particularly where the accommodation provided presupposes a large household. None of these conditions is fulfilled in any of the houses illustrated.

The living room is the most important room in the working-class house. It is the family centre, where it carries on most of its indoor life. For this reason, it is undesirable that it should be used as the main passageway through the

house, and the only means of getting from bedrooms to bathroom and w.c. Although the major defect of doors opening across the living room fire is avoided, one of the houses illustrated in your paper has the larder door opening directly into the living room and, to quote the Tudor Walters Report (1918) again, "It should be remembered that doors of larders where the windows are, or should be, mostly open, are specially draughty." It is also curious that the only plan showing the larder opening into the living room is also the only one showing the provision of a kitchen not containing cooking facilities separate from the living room, so that were it not for the position of the larder, the storage and preparation and, if desired, consumption of food could take place all in the same room.

Reconstruction plans are being discussed, and we have high hopes that though Homes for Heroes failed last time, we can go a step further now and national planning will succeed. Planning, however, might well start with the home. It is, therefore, profoundly discouraging to find that the human requirements of comfort and convenience within the home are still so manifestly misunderstood or ignored that we have fallen behind standards laid down 23 years ago after the last war.

London. REGINALD ROWE

Now is the time to Replan

SIR,—Great opportunities are offered us, which will not occur again for a good many years, for the complete replanning of our towns, villages, etc., yet Duncan McCulloch, in your issue for Sept. 25, proposes to waste these opportunities by replanning and rebuilding only for the present generation. It is for the future generations that we must replan and rebuild. It is too late to replan for the present generation.

One of to-day's greatest faults is that we do not look far enough ahead, because the rising generation of architects is not given a full chance.

In dealing with these replanning problems, the time to start is now, and not wait until the war is over. The new town should be replanned now to the last detail and full use made of the Town Planning Act. The reason for this is that houses have got to be provided for the people who have been bombed out and unless a system of work is devised, all our efforts will be wasted.

At the present time, there are local authorities who would spoil this opportunity by constructing part houses for war-time use only, so that after the war they may be completed as proper dwellings. This is not good enough. An example of this is at Liverpool where the Corporation are proposing to construct part houses at a cost of £498. After the war by knocking a few holes in the brickwork and building the first floor, they may be used as a complete dwelling. This will cost approximately another £400, so that altogether one dwelling will cost, when finally finished, £900, where, if built in one effort, would not be much more than £650.

I also saw in your JOURNAL plans of houses now under construction at Haydock. In one room there are five doors, where it is only necessary to have, at the most, three. Also, the bathroom in these houses is downstairs, which is far from being convenient.

Sheerness. K. WAGER.

Academies for Young Commoners

SIR,—I am in complete agreement with Astragal's views on education in your issue for October 2. As a lady of 59 years of age whose scholastic career ended at 13½ at the local school board, but who is still a keen student of living, I have in my capacity of manager for many years of elementary and central schools and governor of the State-aided Foundation Roan Schools, had an opportunity of observing academic education unrelated to life. I find that education at its present stage seems to be an accumulation of unrelated facts in order to get marks to pass examinations and so getting the entry into well-paid jobs where no responsibility, initiative or creative genius is required. As a Borough Councillor extremely interested in housing, I find the same lack of initiative in both members and staff. I agree that our present education neither inculcates love of beauty, good craftsmanship or good taste.

So far Astragal, but you, Sir, in your editorial, are pleading for a larger scheme to produce a further quantity of mass-educated people, and all its attendant horrors. Most of the creators of splendid architecture and other beautiful and good things in the past were self-educated, and I am sure that very few would have been able to pass the school certificate exam., but they were allowed to develop their individual gifts and the world was more beautiful and better for it. Your footnote is rather unfortunate, as neither Gladstone nor Gibbon were creative geniuses.

It is the generation of the veneration of the old school tie which allowed those awful coloured advertisement signs in Trafalgar Square. Was it not Shaw who said that a public school boy always remains a public school boy? It was this generation with no tight, but perhaps cultural, home life to leaven the "swotting" which pulled down our Regency squares and houses and put up massive troglodyte buildings.

I am sure that you must have been misinformed about the London Hospitals Teaching Schools. They may have a huge clientele, but not 10 per cent. are drawn from London, and the nurses are mostly from Scotland, Ireland, Wales and the provinces. I doubt if there is an M.O. from London in any London borough. The Roan School has had one boy enter the medical profession in ten years. Having been born in London, in Farringdon Road, E.C., precisely, I can remember London at its best. I can remember Southampton Row when the shopkeepers lived over their shops, and the old Holborn Town Hall.

OLIVE BENNETT

Old Charlton, S.E.

R.A. AUTUMN DISCOURSES ON TOWN PLANNING

The President of the Royal Academy has arranged for a series of autumn discourses on town planning to be given at the Royal Academy in connection with the work of the Royal Academy Planning Committee. The discourses will refer especially to important aspects of post-war reconstruction in London, and will be as follows :—

Oct. 23.—Architecture and the Public. Professor A. E. Richardson, A.R.A.

Oct. 30.—Civic Buildings. Mr. Hubert Worthington, O.B.E., M.A.

Nov. 6.—Housing the People. Mr. Fredk. R. Hiorns.

Nov. 13.—Mobility. Sir Charles Bressey, C.B.

The discourses will be given in the Reynolds Room at 3 p.m. Admission free.

IRISH ARCHITECTS AND REGISTRATION

The Architect Registration Bill introduced in the Eire Senate by Senator Dargles and supported by Senators Buckley, Hayes and Tierney, was discussed at a general meeting of the Royal Institute of Architects of Ireland. Various criticisms and suggestions for the strengthening of the Bill were put forward but the general principle of registration for architects was approved.

TOWN PLANNING LECTURES

At the Leicester College of Art and Crafts, School of Architecture, the following lectures are to be given on Town and Country Planning :—

October 21, Town Planning in Practice—Present and Future, by W. Dobson Chapman, M.T.P.I., L.R.I.B.A., A.I.L.A., Town Planning Consultant; chairman, Lieut.-Col. Sir Robert E. Martin, C.M.G., M.A., T.D.

November 4, Post-War Housing, by Miss Elizabeth Denby, Housing Consultant; chairman, G. A. Cope, M.C., F.R.I.B.A.

November 18, The City Plan, by Wesley Dougill, M.A., F.R.I.B.A., M.T.P.I., Town Planning Division, London County Council; chairman, F. L. Attenborough, M.A.

December 2, The Law in Relation to Town Planning, by Desmond Heap, LL.M., L.M.T.P.I., Deputy Town Clerk, City of Leeds; chairman, Victor Pochin.

The lectures will be given in the College Lecture Theatre, at 6.15 p.m.

STRUCTURAL ENGINEERS' OPENING MEETING

The first meeting of the session of the Yorkshire Branch of the Institution of Structural Engineers will take place on October 18, at 2.30 p.m., in the Hotel Metropole, Leeds, when Mr. H. A. Whitaker, M.Eng., Assoc.M.Inst.C.E., will deliver his chairman's address. The meeting will be preceded by a luncheon, to be held at 1 p.m. in the Hotel Metropole.

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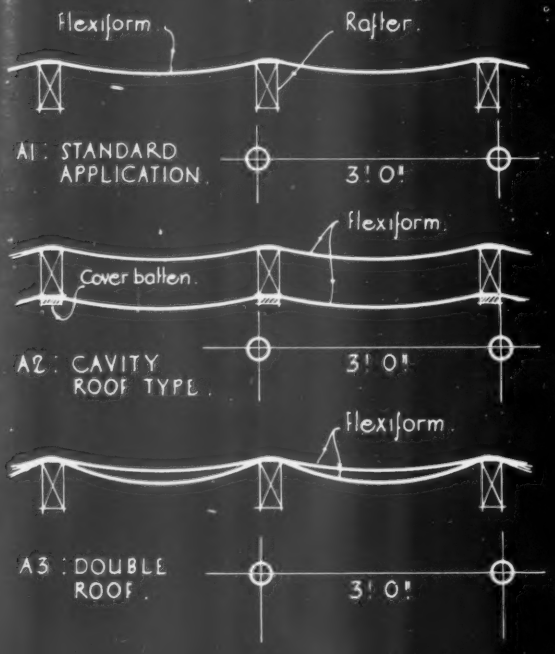
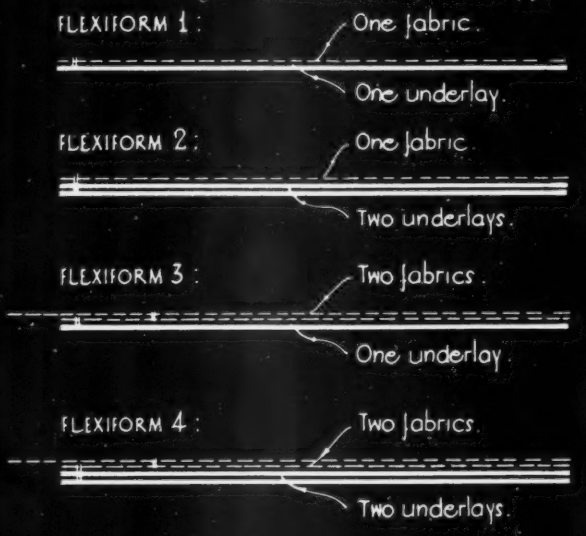
TYPES AND APPLICATIONS OF •FLEXIFORM• *IN SITU* CONCRETE ROOFING

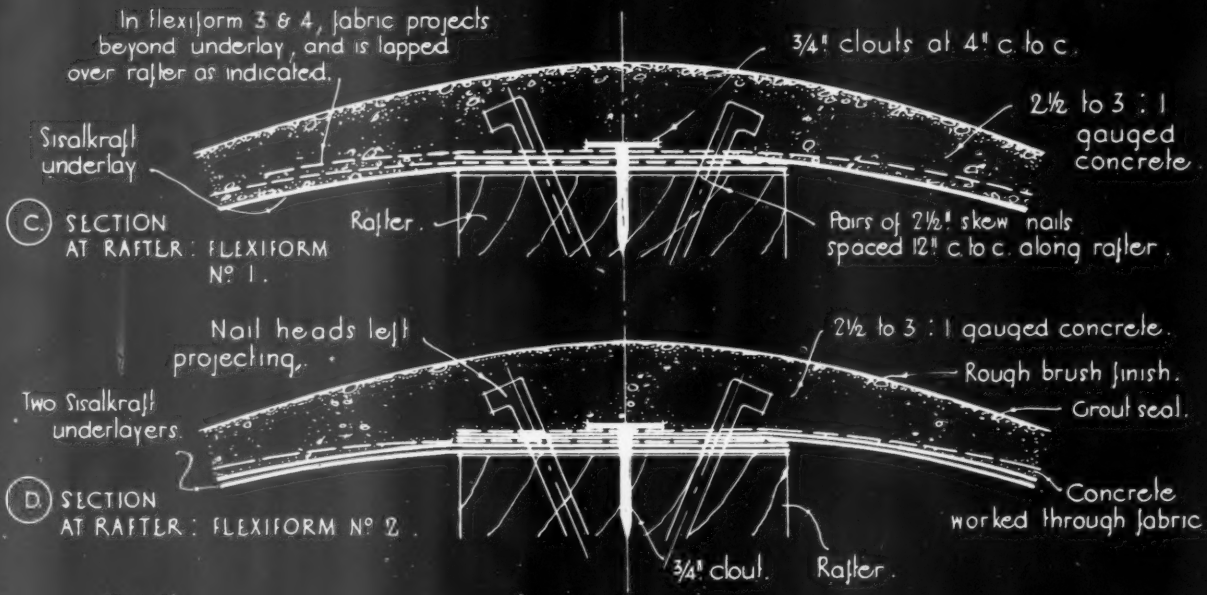
(A) ROOF TYPES: (not to scale).

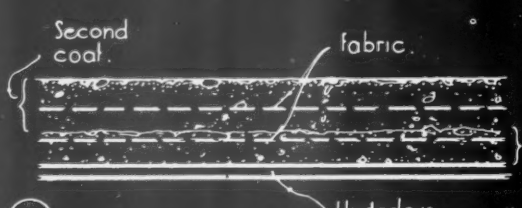


(B) TYPES OF LAMINATIONS: (diagrammatic only).

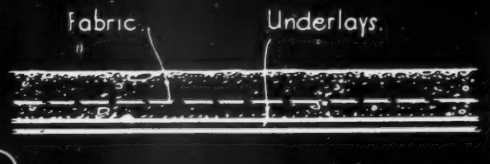


See overleaf for table showing number and thicknesses of concrete coats, and respective weights per square foot.





(E.) FULL SIZE SECTION THRO' FLEXIFORM No. 4.



(F.) FULL SIZE SECTION THRO' FLEXIFORM No. 2.

Issued by J. H. Sankey & Son, Limited.

INFORMATION SHEET: ROOFING: FLEXIBLE TEMPORARY COVERINGS

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC

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INFORMATION SHEET

• 844 •

ROOFING

Subject : Flexiform flexible temporary roofing is a light, toughened, waterproof, gas-proof, emergency covering that will not burn, star, shatter or fly when pierced ; easily flashed and repaired ; quickly laid to rafters ; highly resistant to blast, vibration, spent shrapnel, etc.

Consists of an impermeable, tough, flexible, underlayer of one or more thicknesses of Sisalkraft, over-laid with fine concrete placed *in situ*, and toughened with one or more inter-layers of fibre fabric.

Quantities of Flexiform Material (See Drawings B).

MARK.	UNDERLAY.	FABRIC.	CONCRETE.	WEIGHT.
Flexiform 1	One thickness	One thickness	One coat $\frac{1}{4}$ in. to $\frac{3}{8}$ in.	3 to 4$\frac{1}{2}$ lbs. sq. ft.
,, 2	Two thicknesses	One thickness	One coat $\frac{1}{4}$ in. to $\frac{3}{8}$ in.	3 to 4$\frac{1}{2}$ lbs. sq. ft.
,, 3	One thickness	Two thicknesses	Two coats $\frac{1}{4}$ in. each	6 lbs. sq. ft.
,, 4	Two thicknesses	Two thicknesses	Two coats $\frac{1}{4}$ in. each	6 lbs. sq. ft.

Sold in rolls 25 or 50 yards long, 3 ft. wide and upwards. with fabric shop-fastened to underlay ready to fix, Concreting materials to be obtained locally.

Fixing, Method 1 :

Space rafters 3 ft. outside face to outside face (see Drawing A), and lay material from ridge to eave.

Method 2 :

Rafter spacing immaterial ; lay material parallel to eave with laps horizontal ; specially suitable for rapidly re-roofing damaged buildings.

Fix material to rafters with $\frac{3}{4}$ in. clout nails, 4 in. centres, and drive 2$\frac{1}{2}$ in. skew nails in pairs, 1 ft. centres, with heads projecting which incorporate in concrete, and thus secure roofing (see Drawings C and D).

Stretch the Sisalkraft over the rafters handtight ; the weight of the concrete causes sag between the rafters which is desirable.

Gauge concrete 2$\frac{1}{2}$ to 3 to 1, use gritty concreting sand, spread as soft rendering in $\frac{1}{4}$ in. to $\frac{3}{8}$ in. coats. When dried out brush over with 1 to 1 grout to seal capillaries. Rough brush finish.

Finish Over Ridge :

With overlap of 4 ins. as over rafters.

Finish at Eave :

On fascia board if gutters used. If no gutters allow fabric to overhang Sisalkraft and fold back into concrete to strengthen edge.

For replacing glass to metal bars use Method 2 and secure with wire ties, or clips.

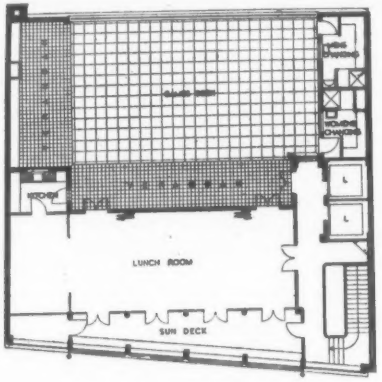
Flexiform is available for all approved Building Work.

Issued by : J. H. Sankey & Son, Limited.
Address : Aldwych House, Aldwych, London, W.C.2.
Telephone : Holborn 6949 (14 lines).

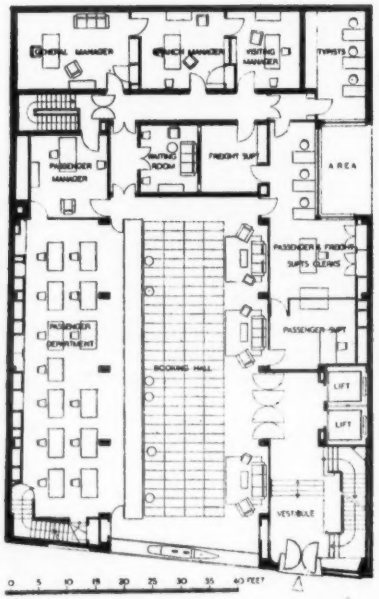
ORIENT

OFFICES FOR ORIENT STEAM NAVIGATION COMPANY

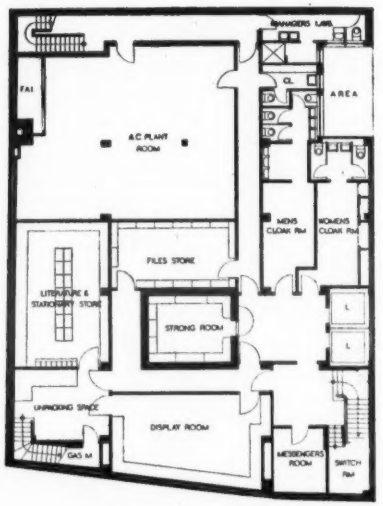
SECOND FLOOR PLAN



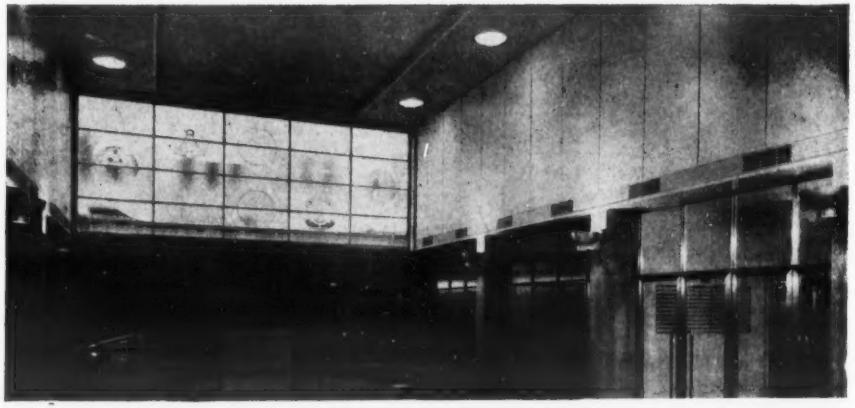
FIFTH FLOOR PLAN



GROUND FLOOR PLAN



BASEMENT PLAN



GENERAL—Offices for the Orient Steam Navigation Company in Spring Street, Sydney, Australia. In its design the architects have been governed by a desire to reproduce something of the clean, functional quality of the Company's liners *Orion* and *Orcades*, for the architectural treatment of which Mr. O'Rorke was responsible. The model of the *Orcades* is seen in the photograph of the show window on the facing page. It is 13 ft. long.

Facing page : The show room window ; above : Two views in the vestibule ; and the main booking hall

BRIAN O'RORKE, ARCHITECT; FOWELL, McCONNELL AND MANSFIELD, ASSOCIATED

OFFICES AT SYDNEY FOR THE ORIENT

EXTERIOR TREATMENT—The ground floor and mezzanine are faced with antique Italian travertine, filled and honed with the grain laid horizontally within a narrow architrave of light travertine and a surround of tooled Rob Roy granite. The walling above is of pale grey Hawkesbury sandstone laid in unbonded rectangles. The narrow, protecting architraves are of Portland stone, which was specially brought out from England. This is probably the first occasion on which Portland stone has been used in Australia. Metal work is silver in colour. The awning and lower windows are of extruded aluminium with a lacquered satin finish, the remaining windows having an aluminium finish on bronze. The rear elevation facing the light area, is almost entirely window.

PLAN—The suite of offices for the general branch and visiting managers is placed at the rear of the ground floor, away from street noises, and top lit by pavement lights under which are laylights of tapestry glass, the artificial illumination coming from the same source. The fifth floor has a sun balcony overlooking Spring Street, with specially designed sliding folding windows so that the whole area can be thrown open.

INTERIOR FINISH—The colour scheme of the interior is based on the use of small areas of sea-blue and coral against a continuous neutral background of travertine, New Guinea walnut panelling, and cream stippled paint. All the furniture was designed, and the furnishings selected, by the architects. The vestibule is faced with travertine, which is also used on the floor and

Above and facing page : the staircase. Left : one of a pair of metal anchor grilles to the mezzanine windows on the main front.

BRIAN O'RORKE, ARCHITECT; FO

STEAM NAVIGATION COMPANY

staircase, up to the mezzanine. In the main booking hall, the decorative glass panels in the large five-light window were designed by Lynton Lamb. The walls and piers of the public space and the counter front are faced with travertine. The rubber floor harmonizes with the travertine surround and is crossed by thin lines of coral and blue. The upper part of the public space is finished in slightly stippled plaster, cream in colour with silver sinkings. The acoustic plaster ceiling is set within a broad " step " of fibrous plaster painted a light blue, containing the flush light fittings, the remainder of the lighting being obtained from similar fittings under the mezzanine and ten large aluminium bracket bowls on the piers. The compass design in the vestibule is by Richard Annand.

SERVICES—The air-conditioning equipment in the basement circulates 22,000 cubic ft. of air per minute, which is filtered to prevent dust from outside entering the building. At the same time the building is maintained under a slight pressure, which helps to prevent dust from outside entering through window cracks, or other sources of minor leakage. The capacity of the equipment is designed so that in maximum summer weather the building is cooled to 75° F., with a relative humidity of 60 per cent., and on the coldest day in winter heating is provided to 65° F., with a relative humidity of 45 per cent. Cooling is provided by

FOWELL, McCONNELL & MANSFIELD, ASSOCIATED

refrigerating compressors, using Freon gas. Heating is by oil-fired boilers. It was necessary to divide the building into two separate self-contained sections, one section consisting of the ground floor, the other section containing the offices on the upper floors. Control of the whole installation is automatic, after starting has been accomplished by the pressing of a single button.

Above, from top to bottom : sun deck on fifth floor; luncheon room, fifth floor; passenger manager's room, ground floor, before furnishing was completed; passenger booking office

ORIENT OFFICES

[*Following are extracts from two papers read before the International Conference of the British Association for the Advancement of Science (Division for Social and International Relations of Science) held at the Royal Institution of Great Britain. See also leading article on page 255.*]

ELIMINATION OF WASTE BY PLANNING AND STANDARDIZATION

By DR. O. N. ARUP

The elimination of waste is the foremost function of the engineer or technician, a good design being that which achieves its purpose with the minimum of human effort. The engineer has progressed a long way towards eliminating waste inside many specialised engineering processes, but the wealth of new knowledge, new materials and new processes has so widened the field of possibilities, that they cannot be adequately surveyed by a single mind.

This results in a lack of co-ordination of the available knowledge, which is the chief source of waste inside engineering to-day. It produces the specialist or expert, and the usual problem arises of how to create the organisation, the composite mind so to speak, which can achieve a well balanced synthesis from the wealth of available material. This is, I suppose, one of the central problems of our time.

The three main methods are :—

Improvement of the technical education. It is easy to see that this will not go very far towards solving the problem.

Collaboration of a number of experts in a team got together to solve a particular type of structural problem, and sharing between them most of the knowledge required to solve this problem efficiently.

The problem cannot, however, be entirely solved by this means, as the various groups working for profit may try to keep their experience secret, may push particular materials and processes in which they have interests, and will tend to compete rather than collaborate amongst themselves. Although they may be efficient inside their own sphere, large-scale planning would require co-ordination of their efforts.

The third and most important remedy would be to check up and classify the existing technical information which often only exists in biassed publications by commercial undertakings, and make it publicly available. This would involve the extension of the present Research Stations, and the creation of planning organisations which would undertake the systematic standardisation of all the elements of planning. It would eliminate some of the unnecessary repetition of detail planning which goes on in thousands of offices, and would ensure the adoption of the most up-to-date methods. The application of this principle would, however, logically result in an extensive interference with industry and construction. In fact it should develop into a social service undertaking the re-planning of the whole of industry, communications, town planning, etc.

Gradually, the centre of gravity would thus be shifted from private enterprise to public service, which should attach to it the best technical ability in the country. It would also be reasonable and profitable to combine these planning research centres with the technical education of students.

THE DISTRIBUTION OF INDUSTRY AND THE POPULATION

By PROF. P. SARGANT FLORENCE

Except for the idle rich and those retired, adult persons must live where they work. Hence the distribution of the population corresponds to the distribution of industry. Which is cause and which effect depends on the type of industry. Some industries, such as the extractive, must take place where the natural resources of soil and minerals exist ; here population follows the industry. Other industries, such as the residentiary services, must be distributed where people require serving. Here trade follows the population. The location of yet other industries, particularly manufactures, are partly determined by sources of labour, partly by natural resources. It is these foot loose mobile industries that give greatest scope for planning.

In planning the foot loose industries the economic criteria of maximum present or future return at minimum cost are important, but not necessarily final. There are socio-economic distributive criteria to be considered of stability of employment between periods and of equality between persons. And there are the purely social criteria of health and of a fuller life and opportunity for all.

Free play given to economic forces in the past has led to localization of a single industry in one district that has resulted in derelict areas and ghost towns when that industry is depressed or declines altogether. Diversification of industry may be adopted as a policy to ensure that every community has a balance of occupations between men and women, between seasons, and between fluctuating and stable, and declining and growing industries.

Economic freedom has also led to concentration of all sorts of industries in one metropolis or conurbation—a great wen like London. Dispersion of industry is a policy to ensure the blending of town and country amenities and outlook.

Recent scientific progress has on the whole intensified the economic trend toward industrial concentration.

If the social and socio-economic criteria are accepted and dispersion adopted as a policy much hard thinking and fighting lies ahead for planners. Will the encouragement of agriculture be continued after the war and the population thus dispersed from manufacturing into agricultural areas? The answer partly depends on international considerations of special interest to this meeting. If tariffs or quotas on manufactured goods are persisted in by the larger, especially creditor, nations, there can be little national specialization in manufactured exports, and England can no longer be the workshop of the world. She must try to become self-supporting and dispersion into agriculture will be a necessity.

In any case, whether plans for dispersion are internationally forced, or free, the government will have to implement plans by pressure on private enterprise. In a democratic state this presents difficulties. Encouragement by financial inducements may prove too expensive and at least a negative compulsion may have to be resorted to by refusal of license to factories to settle in certain congested areas such as London.

SOME QUESTIONS ANSWERED THIS WEEK:

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its help is available to any member of the industry.

Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential; and in no case is the identity of an enquirer disclosed to a third party.

Questions should be sent by post to—

THE ARCHITECTS' JOURNAL
45 THE AVENUE, CHEAM, SURREY

—but in cases where an enquirer urgently requires an answer to a simple question, he may save time by telephoning the question to—

VIGILANT 0087

The reply will come by post.

Q 803

ENQUIRER, MONTGOMERYSHIRE.—*IS IT NECESSARY TO REGISTER as an architect, before applying for a post AS AN ARCHITECT or ARCHITECTURAL ASSISTANT under a local authority.*

No person need register as an architect before obtaining a position as an architectural assistant, but he must register before commencing employment, under a local authority, as their architect.

Q 804

ARCHITECTURAL ASSISTANT, EIRE.—*I am 19, and six months ago completed three years apprenticeship to a firm of Dublin architects. I am being kept on as an assistant and because of slackness of business at a very small wage. What chances of obtaining EMPLOYMENT exist FOR ARCHITECTURAL DRAUGHTSMEN IN GREAT BRITAIN and where should I apply for particulars?*

Most architects employed by Government Departments, etc., are drawn from the Central Register, Queen Anne's Chambers, London, S.W.1.

The Royal Institute of British Architects, 66, Portland Place, London, W.1 and the Architectural Association, 34, Bedford Square, London, W.C., assist their members to find occupations and they might be prepared to consider your application if they happen to have more vacancies than they can fill.

Failing this we suggest that you advertise in one of the architectural papers.

There is a fair demand for architectural assistants at the present time and you should have some chance of securing a position.

Q 805

ENGINEERS, LONDON.—*Can you supply us with the names of a few firms who are manufacturing PRE-CAST UNIT CONSTRUCTION BUILDINGS such as hutments or anything of a similar construction, somewhere near London.*

H. G. Dyke, 14, Langham Place, London, W.1.

Maycrete Sales, Ltd., 55, Portland Place, London, W.1.

Orlit, Ltd., Colnbrook By-Pass, Colnbrook, Bucks.

Trussed Concrete Steel Co., Horseferry House, Horseferry Road, London, S.W.1.

Twisteel Reinforcement, Ltd., New Malden, Surrey.

Q 806

ARCHITECT, BIRMINGHAM.—*I understand that the Ministry of Works and Buildings Form B.P.2 has to be completed before any application for new work (costing over £5,000?) will be considered by the Ministry. This being so it will become necessary for a client to have working drawings prepared with the consequent expense of architects' fees before he can ascertain or not whether his building can proceed.*

The final section of the form states "ESTIMATED LABOUR REQUIREMENTS" and I am wondering if it would be possible to obtain any approximate tabular guide in order to enable this to be completed. It seems to me to be quite outside the scope of the average architect's capacity.

I understand that the Government have some calculations to the effect that each tradesman should achieve a given value of work in a certain time.

Is there any other guidance which could conveniently be put into tabular form to simplify the completion of these forms?

The Ministry of Works and Buildings have their own methods of estimating labour requirements but they cannot be expected to publish them. Any formula evolved must be very carefully used and only in connection with, perhaps, one particular type of job. You may rest assured, however, that the Ministry will check your estimate of labour requirements and will refer the matter back to you if they think you are seriously at fault.

You can obtain help from the Basic (pre-war) Schedule of Prices published in THE ARCHITECTS' JOURNAL for January 18th, 1940. If you turn to Prices for Measured Work and refer, for instance, to Fletton brickwork in cement mortar (with ¼ inch joints), you will see that the price per rod was given as £24 14s. 9d., and that of this £14 16s. 0d. was for materials only. The labour cost at that time was, therefore, £9 18s. 9d. per rod, or for the purpose of an approximate estimate, say £10.

Further reference to the Schedule makes it clear that 10 per cent. is included in all prices for overhead charges and profit, and that the rates of wages ruling at the time were 1s. 9d. for craftsmen and 1s. 3¾d. for labourers, *i.e.*, for the purpose of an approximate estimate about £4 5s. 0d. and £3 5s. 0d. per week respectively (including overheads and profit).

From this data it is clear that the labour costs for one rod of brickwork is £10 and, if you assume that one labourer can attend upon two bricklayers, it is equally clear that one gang of labour costs £11 5s. 0d. per week, *i.e.*, one gang can do rather more than a rod per week. To be rather more precise fourteen rods will take about twelve weeks—or four weeks if six bricklayers and three labourers are employed.

It is obvious that your chief difficulty will be in determining the proportion of labourers to craftsmen and we cannot undertake to give you an analysis for all the work you are likely to have to deal with; however, you probably know that nearly all excavating and concreting is done by labourers, that carpenters and painters require little attendant labour and that plumbers and electricians normally have one labourer to each craftsman.

You may be slightly puzzled to find that we refer to pre-war prices, but this is merely because a complete list of prices has not appeared in THE ARCHITECTS' JOURNAL since, and other journals do not give labour costs for measured work. Labour costs are based on rates of wages, however (*e.g.*, if wages rose by 10 per cent. labour costs would also rise by 10 per cent.) so pre-war figures can still be used for determining the amount of labour required for any particular work.

To bring the calculations up-to-date it is necessary to take into account factors imposed by war-time conditions. First class skilled labour is difficult to obtain in many parts of the country and output suffers accordingly. It is necessary to make some allowance for this when calculating the number of hours or weeks in the way suggested.

Q 807

ENQUIRER, LONDON.—*What is the RATE FOR an OXY-ACETYLENE WELDER, complete with plant and gas?*

There is no standard rate for welder and plant. The rate is dependent on the size and the location of the job. Since the war transport has become dearer and this affects the rate considerably.

The Institute of Welders Ltd. suggest 15s. 0d. per hour inclusive of gas and use of plant and welding material, as an approximate guide.

REFERENCE BACK

[*This section deals with previous questions and answers.*]

Q 789

The enquirer wished to know what foundations were necessary for blast walls and what calculations the Ministry's Inspectors would use to ensure that the foundations were sufficient. In reply we stated that foundations need only be in accordance with normal building practice and that an ordinary blast wall could be built directly off the surface concrete resting on the ground, and external blast walls should have a small concrete foundation to distribute the weight evenly on the ground.

The enquirer wrote a second time stating that he appreciated that very little foundations would be necessitated by the weight of the wall, but that the lateral pressure exerted on the wall by blast would be transmitted to the foundations, which should be taken into consideration when calculating foundations.

We repeat that the Ministry is not concerned with the foundations of blast walls, as the weakest link in the structure as a whole is the joints of the brickwork and the resistance to sheer and bending is not great enough to withstand blast of such strength that a considerable additional load will be transferred to the foundations. The Ministry will, in fact, be satisfied with walls resting on good surface concrete or on small concrete foundations externally and would only be dissatisfied if the walls themselves became defective as might be the case if they were built direct on to loose sub-soil without foundations.

REPAIRS TO WAR-DAMAGED WAR FACTORIES

Consideration has been given by the War Damage Commission and the Government Departments concerned to the question of securing that while the national effort in the matter of war-time production shall not be delayed or impeded, the public interest in relation to future replanning of a war-damaged area shall also be taken into account.

Under Section 7 of the War Damage Act the Commission is empowered, in the public interest in relation to town and country planning, to specify classes of work (other than temporary work) which may not be carried out without previous submission of the proposal to the Commission. Payment of compensation may be withheld if such work is carried out without the prior consent of the Commission. A number of such areas have already been scheduled in which this obligation applies to work which will ultimately cost more than £1,000 or ten times the net annual value of the hereditament (six times the gross annual value in Scotland), whichever is the less.

In order that those likely to be concerned of the procedure to be followed, the Commission is issuing a handbill informing them of the steps to be taken in the case of normal buildings.

The occupiers of factories engaged on war work which suffer war damage usually apply to the Local Reconstruction Panels of the Emergency Services Organization of the Ministry of Aircraft Production (which body serves, also, the Ministry of Supply and the Admiralty) for assistance in the repair of their buildings. It has been arranged that the Panel, when approached by the occupier of a damaged factory, will at the same time assume responsibility for consultation, on behalf of the Commission, with the Planning Authority. Where authority for the work to proceed is given by the Panel, work can at once proceed in the knowledge that the Commission will not impose any further conditions.

It will, however, be the duty of the occupier of the factory so soon as possible to produce to the Commission written evidence furnished by the Panel that the Planning Authority has consented to the execution of the works. Where other Government Departments are interested in the immediate repair of a building essential to the war effort the local representative of the Department concerned will assume a similar responsibility for consultation with the Planning Authority.

Following are the names and addresses of the regional representatives of the Emergency Services Organization of the Ministry of Aircraft Production :—

Region No. 1, *Northern* : Northumberland, Durham and North Riding, F. A. M. Vincent, C.I.E., C.B.E., M.V.O., Clarendon House, Clayton Street W., Newcastle-on-Tyne.

Region No. 2 : East and West Riding, F. A. M. Vincent, C.I.E., C.B.E., M.V.O., Fargate House, Fargate, Sheffield, 1.

Region No. 3, *North Midland* : Lincoln, Derby, Notts, Leicester, Rutland and Northants, W. D. L. Roberts, Gordon House, Carrington Street, Nottingham.

Region No. 4, *Eastern* : Norfolk, Suffolk, Hunts, Cambridge, Beds, Herts, and Essex outside the London Area, J. J. Piggott, Romney House, Marsham Street, S.W.1. (Regional Officer for E.S.O. : C. C. Griffith, Bishop's Hostel, Trinity College, Cambridge.)

Region Nos. 4 *and* 12, *London and South Eastern London* (Metropolitan Police Area) : Also Counties of Kent, Surrey and Sussex, J. J. Piggott, Romney House, Marsham Street, S.W.1. (Regional Officer for E.S.O., R. Lillico, I. C. House, Millbank, London, S.W.1.)

Region No. 6, *Southern* : Bucks, Oxford, Berks, Hants, Isle of Wight and Dorset, W. B. Manley, King's Road, Reading, Berks.

Region No. 7, *South Western* : Cornwall, Devon, Somerset, Wilts and Gloucester, Sir William A. Cosgrave, C.I.E., "Woodville," The Avenue, Sneyd Park, Bristol, 9.

Region No. 8, *Wales* : Capt. G. C. H. Crawshay, J.P., D.L., 95-97, St. Mary Street, Cardiff.

Region No. 9, *Midland* : Stafford, Salop, Hereford, Worcester and Warwick, Lt.-Col. R. M. Collier, D.S.O., C.B.E., C.M.L. Buildings, Great Charles Street, Birmingham, 3.

Region No. 10, *North Western* : Lancashire, Cumberland, Westmorland and Cheshire, Sir Ernest Simon, "Highfield," Dene Road, Didsbury, Manchester, 20.

Region No. 11, *Scotland* : C. A. Oakley, B.SC., 21, Glassford Street, Glasgow, C.1.

Region No. 13, *Northern Ireland* : Sir Walter Smiles, C.I.E., D.S.O., M.P., Imperial House, Donegall Square E., Belfast.

LEAD PIPES

The revision of the British Standard for Lead Pipes has just been undertaken and is known as B.S.603-1941 Lead Pipes (B.N.F. Ternary Alloy (No. 2)). This specification was first issued in May, 1935, but as a result of experience gained in its use it was found that certain modifications were desirable, and these have been incorporated in the revision now published.

The main points in this revision are as follows :—(*a*) The chemical composition is now given in greater detail, and so is the method of marking ; (*b*) An additional clause has been included with regard to grain size ; (*c*) The ranges of pressure for which the various weights of pipe may be used have been modified : restrictions are also placed on the pressures in pipes used to carry hot water.

Copies of the specification may be obtained from the British Standards Institution, 28, Victoria Street, London, S.W.1, price 2s. (2s. 3d., post free).